

REMARKS

Applicants thank the Examiner for a telephone discussion on February 13, 2009, confirming that the reference “Montgomery” rather than “Ainsley” is the reference to which Applicants need to respond.

Claims 1-30 and 32 are pending, claim 30 is withdrawn consideration, and claims 1-29 and 32 are rejected. Applicants herewith amend claim 1 to make clear that the steps of claim 1 must be in order, that the profile is produced “after casting but before curing on the premix”, and to make explicit that the porosity increases gradually away from an outer surface of the product and decreases gradually towards another outer surface of the product. Support for this amendment is found, for example, at page 10, line 21 through page 11, line 4 of the specification. Claims 4, 5, 7, 10, and 30 are also amended to recite some of these recitations.

Claim 7 is amended to recite that one or more sparging lances are used to inject gas at selected locations in the premix. Support for this amendment is found, for example, at page 6, lines 21-22 of the specification.

Claim 11 is amended to recite “a superplasticising admixture.” Support for this amendment is found, for example, at page 4, lines 23-25 of the specification.

Claim 13 is amended to recite “gas bubbles that have been generated in the premix are retained.” Support for this amendment is found, for example, at page 7, line 26 through page 8, line 3 of the specification.

Claim 25 is amended to recite that the amount of residual water content is “of from 12-15% by weight.” Support for this amendment is found, for example, at page 12, lines 18-19 of the specification.

Claims 3-7, 10, 14, 16, 18, 21, 24, 25, 28, and 30 are amended to improve the form of these claims. No new matter is added. Entry and consideration of the Amendment are respectfully requested.

I. Claims 1-29 and 32 Satisfy The Requirements of 35 U.S.C. § 112

On pages 2-4 of the Office Action, claims 1-29 and 32 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite.

Regarding Claims 1, 7, 15, and 28, the Examiner asserts that the term “the premix” lacks antecedent basis and is inconsistent with the use of the terms “a cementitious premix” and “a cast premix.” See Paragraphs No. 4, 8, 10, 13, and 15 of the Office Action. Regarding Claim 1, the Examiner asserts that the phrases “relatively low density” and “the desired porosity profile” are indefinite as relative terms. Regarding Claim 3, the Examiner asserts that claim 3 does not discuss any active step. Regarding Claims 5 and 6, the Examiner asserts that the phrase “quality of finish” is a relative term that renders the claim indefinite. Regarding Claim 7, the Examiner asserts that the phrase “by use of a sparging apparatus” leaves it unclear how the sparging apparatus is used. Regarding Claim 11, the Examiner asserts that the phrase “appropriate additives” in claim 11 is a relative term that renders the claim indefinite. Regarding Claim 25, the Examiner asserts that the phrase “relatively low residual water content” is a relative term that renders the claim indefinite. Regarding Claim 30, the Examiner asserts that the phrase “relatively low density” in claim 30 is a relative term that renders the claim indefinite.

In response, regarding “relatively low density,” Applicants respectfully traverse this aspect of the § 112 rejection, because the term “relatively low density” in claim 1 qualifies the

density of the core region of the product relative to outer regions. That being the case, the claim is clear since it qualifies the relative density of different regions of the product. It would not be appropriate, given the nature of the invention, to refer to any density in absolute terms. Moreover, the amendment to claim 1, to further characterize the porosity profile of the product, adds to the clarity of the claim.

Regarding the rejections based on claims 1, 3, 5, 6, 7, 11, 15, 25, 28, and 30, Applicants respectfully submit that the above Amendment to these claims obviates these rejections.

Reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, second paragraph, are respectfully requested.

II. Claims 1, 10-11, 13-14, 16-17, 27-29, and 32 Are Not Anticipated

On pages 4-5 of the Office Action, claims 1, 10-11, 13-14, 16-17, 27-29, and 32 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Jensen ("Jensen", U.S. Patent Application Publication 2002-0047223) for reasons of record.

Applicants respectfully traverse for the following reasons.

It is a requirement of the presently claimed invention that the product produced has a characteristic porosity profile. Thus, the product has a porosity profile along a cross-section such that the product comprises a relatively low density core region and higher density outer regions. See claim 1 and page 10, line 21 through page 11, line 4 of the present specification.

Additionally, it is a requirement of the product that the porosity increases gradually away from an outer surface of the product and decreases gradually towards another outer surface of the product. In other words, the distribution of porosity in the product of the present invention may be represented by a relatively smooth curve of distance along a graph of cross-section versus

porosity. Ideally, the distribution may be smooth and symmetrical, such as that it might be represented by a normal bell-shaped distribution curve, although this is not essential. The maximum porosity in the product may not actually be at the mid-point of the relevant cross-section. It is important, however, to note that the product includes relatively dense outer regions with porosity gradually increasing away from those regions.

In contrast, the process described by Jensen is one that does not, and could not, generate the same porosity profile as called for in the claims of the present application. This is evident when one considers paragraph [0032] of Jensen. At the end of that paragraph it is stated that:

"As the cementitious slurry is poured into the mold, the air cells in the slurry that contact the surface of the heated mold collapse producing an outer layer of cement with fewer air cells. The use of a heated cementitious slurry in conjunction with the aid of the heated mold quickly cures the slurry such that the entrained air cells are prevented from coalescing, interconnecting, or migrating. *Thus, the air cells remain evenly dispersed throughout the slurry.* The hardened outer shell produced by the heated mold produces a dense outer layer that reduces the ability of the cement to draw in water by capillary action." (emphasis added)

Thus, the methodology of Jensen may produce a product that has a relatively dense outer skin. However, within the bulk of the product it is clear that the porosity profile would be essentially uniform. The process specifically taught by Jensen would not lead to a porosity profile as per the present invention in which the porosity increases gradually away from an outer surface of the product and decreases gradually towards another outer surface of the product. This amendment to the claims of the present application makes explicit a fundamental difference between the products that would be obtained according to Jensen and the products obtained in accordance with the present invention.

In view of the above, Applicants respectfully submit that for at least these reasons claims 1, 10-11, 13-14, 16-17, 27-29, and 32 are not anticipated by Jensen.

III. Claims 2-9, 12, 15, and 18-26 Are Not Obvious Under 35 U.S.C. § 103

On pages 7-8 of the Office Action, claims 3, 6, 15, and 26 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Jensen as applied to claim 1 above.

On page 8 of the Office Action, claims 4 and 16 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Jensen, as applied to claim 1 above, and further in view of Hansen et al. ("Hansen", U.S. Patent No. 5,039,249) for reasons of record.

On pages 9-11 of the Office Action, claims 2, 5, 12, 18-23, and 25 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Jensen, as applied to claim 1 above, and further in view of Shi et al. (U.S. Patent Application Publication 2002/0117086) for reasons of record.

On pages 11-12 of the Office Action, claims 7-9 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Jensen, as applied to claim 1 above, and further in view of Kovacs et al. ("Kovacs", WO 98/42637) for reasons of record.

On pages 12-13 of the Office Action, claim 24 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Jensen, as applied to claim 1 above, and further in view of Montgomery ("Montgomery," U.S. Patent No. 5,587,012) for reasons of record.

In response, Applicants respectfully traverse for the following reasons.

The basis for the Examiner's rejections in all the above cases is the disclosure of Jensen (as primary reference). However, Applicants respectfully submit that the amendment to the claims of the present application makes explicit a fundamental difference between the disclosure

of Jensen and the presently claimed invention. Therefore, Applicants assert that the above Amendment renders moot the rejections that have been raised under 35 U.S.C. § 103(a), because no combination of Jensen, Hansen, Shi, Kovacs, and Montgomery teaches or suggests the porosity profile required by the claims of the present application.

For at least these reason, Applicants respectfully submit that Jensen, Hansen, Shi, Kovacs, and Montgomery do not render the presently claimed invention obvious under 35 U.S.C. § 103(a).

Reconsideration and withdrawal of the § 103 rejections are respectfully requested.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

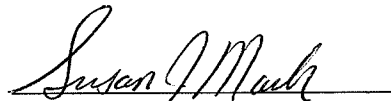
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